



EDMUND G. BROWN JR.
GOVERNOR

MATTHEW RODRIGUEZ
SECRETARY FOR
ENVIRONMENTAL PROTECTION

Los Angeles Regional Water Quality Control Board

January 15, 2013

Ms. Deborah Pryor
Shell Oil Products Company US
20945 South Wilmington Avenue
Carson, CA 90810-1039

**GENERAL WASTE DISCHARGE REQUIREMENTS FOR GROUNDWATER CLEANUP AT
PETROLEUM HYDROCARBON FUEL, VOLATILE ORGANIC COMPOUND AND/OR
HEXAVALENT CHROMIUM IMPACTED SITES (ORDER NO. R4-2007-0019)
FORMER SHELL SERVICE STATION
4404 WOODMAN AVENUE, SHERMAN OAKS
(CI NO. 9873, SERIES NO. 200); (UST FILE NO. 914230170A)**

Dear Ms. Pryor:

We have completed our review of your application for coverage under the General Waste Discharge Requirements (WDR) utilizing in-situ chemical oxidation (ISCO) with sodium persulfate application at the subject Site. The purpose of the injection is to mitigate fuel constituents in the groundwater beneath the site in order to minimize the threat to the underlying aquifers.

Equillon Enterprises LLC dba Shell Oil Products US (hereinafter Discharger) owns the facility located at the corner of Woodman Avenue and Moorpark Street in Sherman Oaks, California (Figures 1 and 2) (Latitude: N 34° 09' 02", Longitude: W 118° 25' 52"). The site is a former Shell Service Station that contained three gasoline underground storage tanks (USTs) and one waste oil tank which were removed in 2002. The station building remains at the site and is currently used as the office for a used car dealership. The site is located in area of mixed residential and commercial properties. The site has been managed under the Regional Board's Expedited Agency Oversight Program (EAOP).

In March 2002, three 10,000-gallon gasoline USTs, one 550-gallon waste oil tank, two dispenser islands, a clarifier and three hydraulic hoists were removed from the site. Several site investigations conducted to date indicate that the soil and groundwater beneath the site have been impacted by fuel constituents. Maximum concentrations of 3,200 milligrams per kilogram (mg/kg) petroleum hydrocarbons (TPH_G), 5.5 mg/kg benzene, 24 mg/kg methyl tertiary butyl ether (MTBE) and 200 mg/kg tertiary butyl alcohol (TBA) were detected in the soil.

A total of twenty groundwater monitoring wells (B-1 through B-14; MW-1 through MW-6) are located at the site. The most recent monitoring data (July 2012) reported the maximum TPH_G concentrations up to 1,300 micrograms per liter (µg/L), 570 µg/L MTBE and 130,000 µg/L TBA in the groundwater. The depth to groundwater was measured at approximately 18 feet below ground surface (bgs) and groundwater flow direction is currently toward the southwest (Figures 3, 4 and 5).

MARIA MEHRANIAN, CHAIR | SAMUEL UNGER, EXECUTIVE OFFICER

320 West 4th St., Suite 200, Los Angeles, CA 90013 | www.waterboards.ca.gov/losangeles

In a remedial action plan (RAP) dated July 29, 2011, the Discharger's consultant, Wayne Perry, Inc. (WPI) proposed ISCO injection using sodium persulfate to treat TBA-impacted groundwater beneath the site. In a Regional Board directive letter dated November 23, 2011, the RAP was approved.

Regional Board staff has determined that the proposed discharge meets the conditions specified in Order No. R4-2007-0019, "*Revised General Waste Discharge Requirements for Groundwater Remediation at Petroleum Hydrocarbon Fuel, Volatile Organic Compound and/or Hexavalent Chromium Impacted Site (General WDRs)*" adopted by the Los Angeles Regional Water Quality Control Board on March 1, 2007.

Enclosed are the Waste Discharge Requirements (WDR), consisting of Regional Board Order No. R4-2007-0019, Monitoring and Reporting Program No. CI-9873, and Standard Provisions.

The WDRs shall not be terminated until Regional Board staff determines the WDRs are no longer needed for the site cleanup.

The Monitoring and Reporting Program No. CI-9873 requires you to implement the monitoring program on the effective date of this enrollment under Regional Board Order No. R4-2007-0019. When submitting monitoring or technical reports to the Regional Board, per these requirements, please do not combine other reports with your monitoring reports. Submit each type of report as a separate document.

We are sending a copy of Order No. R4-2007-0019 only to the applicant. A copy of the Order will be furnished to anyone who requests it. A copy of the Order can also be found online at: http://www.waterboards.ca.gov/losangeles/board_decisions/adopted_orders/general_orders/r4-2007-0019/r4-2007-0019.pdf

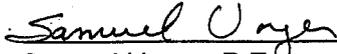
In accordance with regulations adopted by the State Water Resource Control Board (State Board) in September 2004 regarding electronic submittal of information (ESI), the Discharger has been electronically submitting Underground Storage Tank Program (UST) technical reports to the State Board GeoTracker system under the UST Global ID T0603702474. To comply with this Monitoring & Reporting Program (MRP), the Discharger shall upload the MRP monitoring reports to the Geotracker under the two Global IDs T0603702474 (continuing) and WDR 100005365 (new). For more information regarding the WDR Global ID, please see the ESI training video at:

<https://waterboards.webex.com/waterboards/ldr.php?AT=pb&SP=MC&rID=44145287&rKey=7dad4352c990334b>.

To avoid paying future annual fees, please submit a written request for termination of your enrollment under the general permit in a separate letter, when your project has been completed and the permit is no longer needed. Be aware that the annual fee covers the fiscal year billing period beginning July 1 and ending June 30, the following year. You will pay the full annual fee if your request for termination is made after the beginning of the new fiscal year beginning July 1.

If you have any questions regarding the WDRs, please contact Mr. Eric Wu at (213) 620-6683 or ewu@waterboards.ca.gov. Questions regarding the underground storage tank issues should be forwarded to Ms. Chandra Tyler at (213) 576-6782 or cetyler@waterboards.ca.gov.

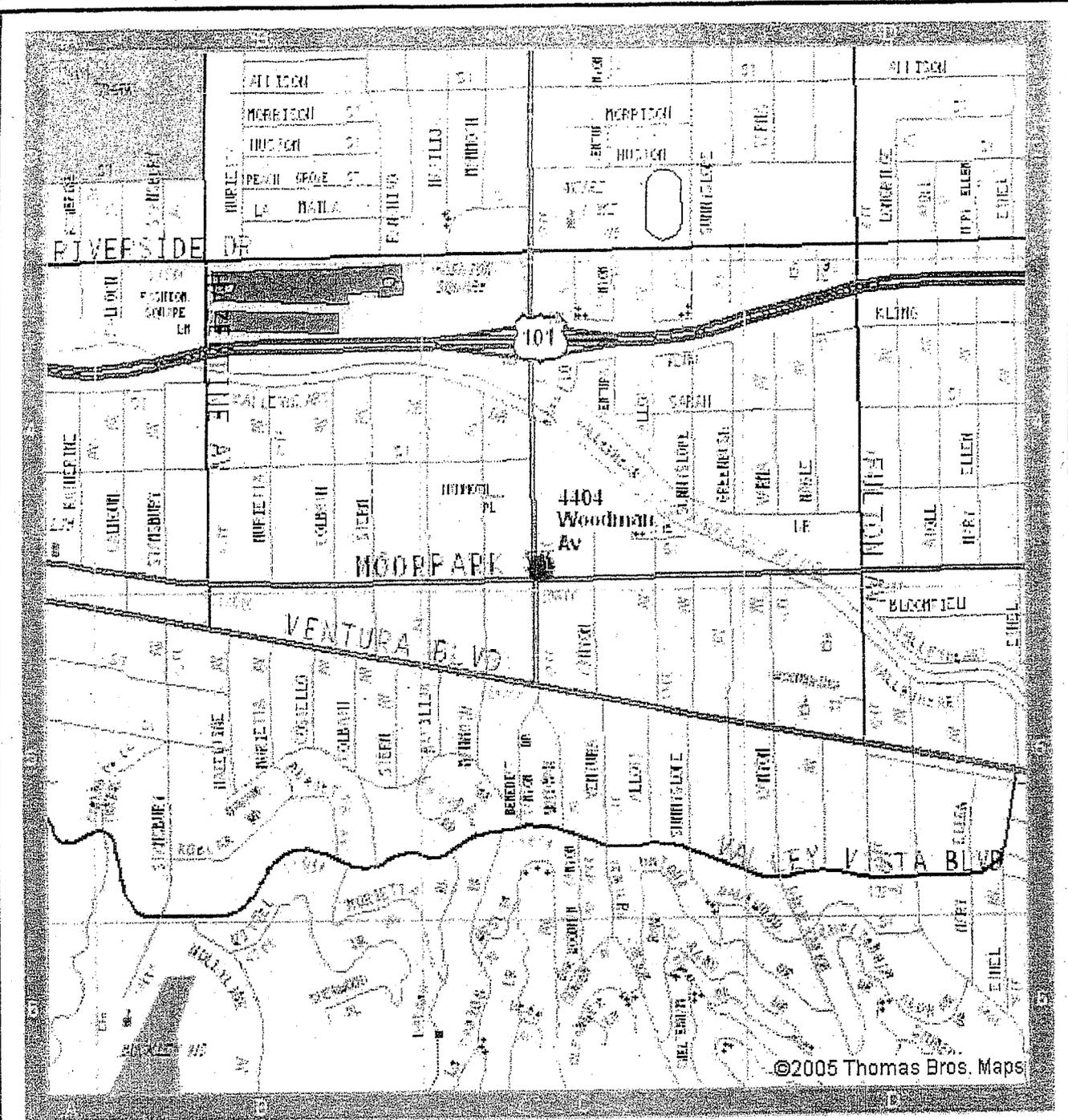
Sincerely,


Samuel Unger, P.E.
Executive Officer

- Enclosures: 1. Board Order No. R4-2007-0019
2. Monitoring and Reporting Program No. CI-9873
3. Standard Provisions

cc: Kathy Jundt, State Water Resources Control Board, UST Cleanup Fund
Phuong Ly, Water Replenishment District of Southern California
Eloy Luna, City of Los Angeles Fire Department, Underground Tanks
Captain Matthew Gatewood, City of Los Angeles Fire Department, Underground Tanks
Ginny Murphy, Wayne Perry, Inc.
Cristi Farrell, Wayne Perry, Inc.
Doron and Star Cohen, Property Owners

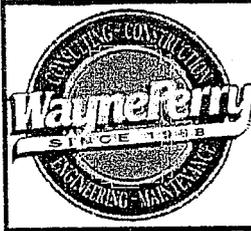




©2005 Thomas Bros. Maps

REPRODUCED WITH PERMISSION GRANTED BY THOMAS BROS. MAPS®
 IT IS UNLAWFUL TO COPY OR REPRODUCE ALL OR ANY PART THEREOF,
 WHETHER FOR PERSONAL USE OR RESALE, WITHOUT PERMISSION.

NOT TO SCALE



DATE	
REVISED	
CAD FILE	06459LM

SITE LOCATION MAP

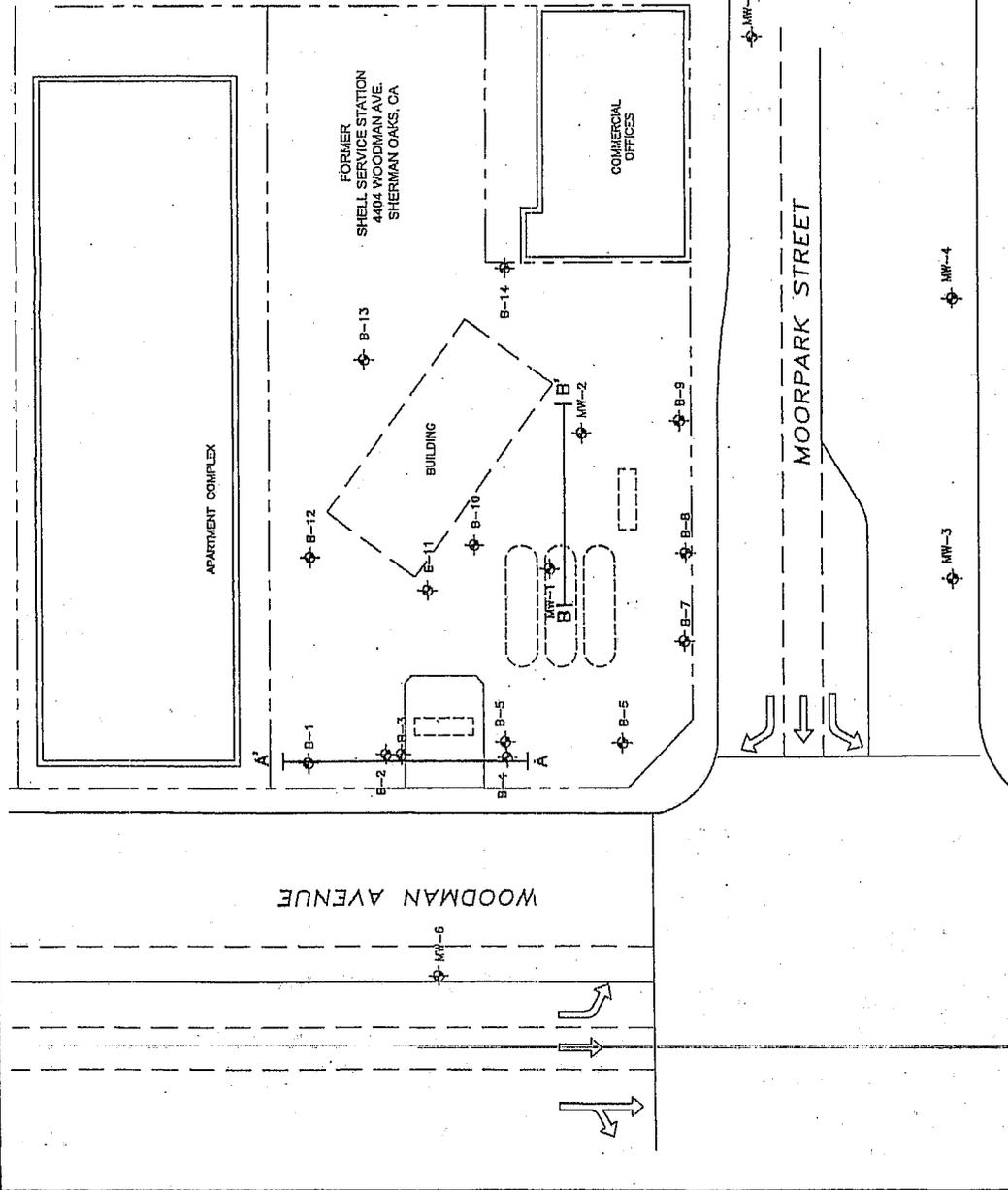
FORMER SHELL SERVICE STATION
 4404 WOODMAN AVE.
 SHERMAN OAKS, CA

FIGURE NO.	1
PROJECT NO.	09.588



LEGEND

- GROUNDWATER MONITORING WELL
- UNDERGROUND STORAGE TANK
- DISPENSER ISLAND
- CROSS SECTION LINE



DATE DRAWN
DRAWN BY
CADD FILE
06459PP

FIGURE NO. **2**
PROJECT NO. 11.256
PLOT PLAN
FORMER SHELL SERVICE STATION
4404 WOODMAN AVE.
SHERMAN OAKS, CA



LEGEND

GROUNDWATER MONITORING WELL
SHOWING TPH-G, BENZENE, MTBE
AND TBA CONCENTRATION IN ug/L

NOTES:

- NS - NOT SAMPLED
- (1) - INSUFFICIENT WATER

TPH-G - TOTAL PETROLEUM HYDROCARBONS
(GASOLINE)

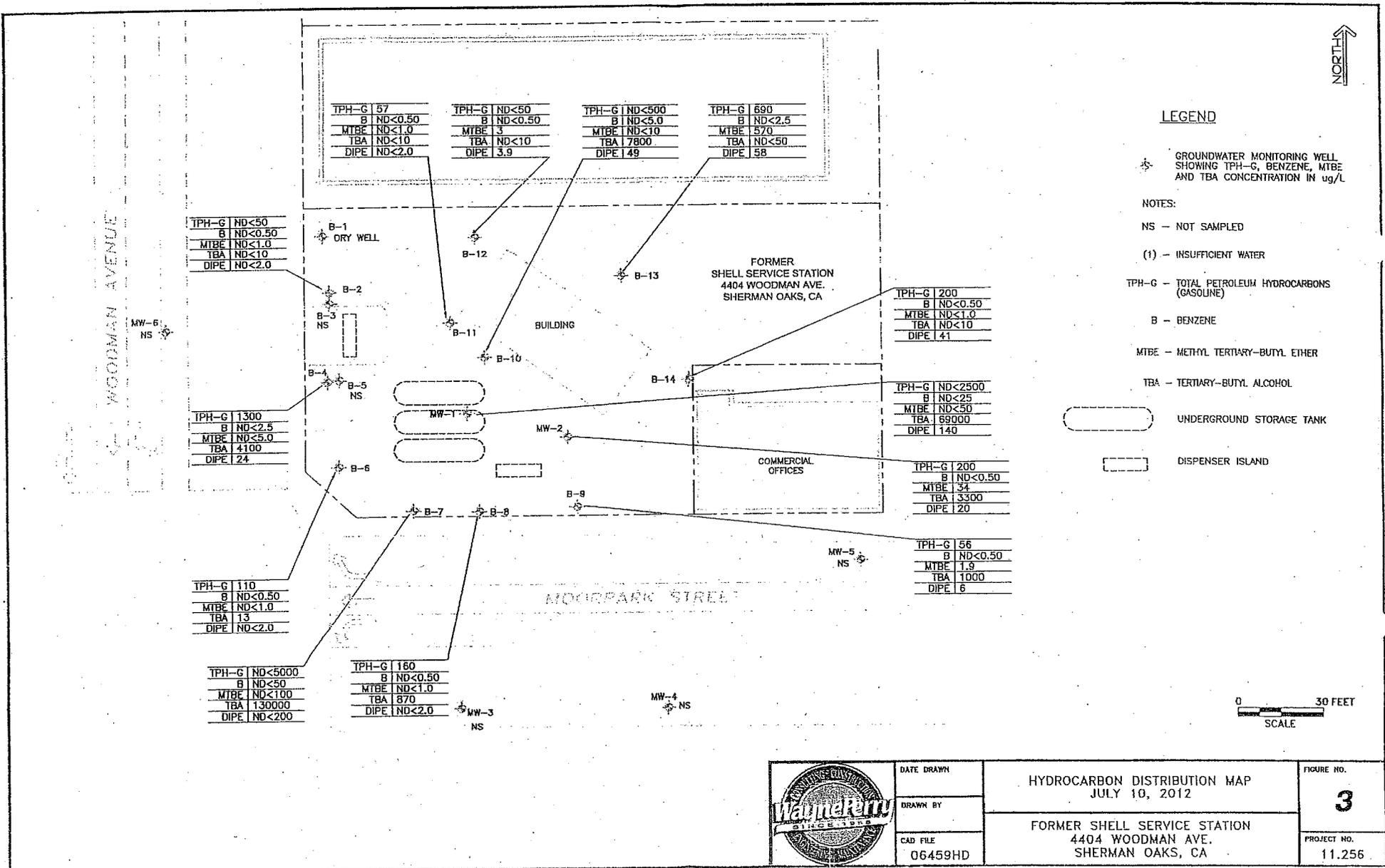
B - BENZENE

MTBE - METHYL TERTIARY-BUTYL ETHER

TBA - TERTIARY-BUTYL ALCOHOL

UNDERGROUND STORAGE TANK

DISPENSER ISLAND



	DATE DRAWN	HYDROCARBON DISTRIBUTION MAP JULY 10, 2012	FIGURE NO.
	DRAWN BY		3
	CAD FILE		PROJECT NO.
	06459HD	FORMER SHELL SERVICE STATION 4404 WOODMAN AVE. SHERMAN OAKS, CA	11.256



APARTMENT COMPLEX

FORMER SHELL SERVICE STATION
4404 WOODMAN AVE
SHERMAN OAKS, CA

COMMERCIAL OFFICES

WOODMAN AVENUE

MOORPARK STREET



LEGEND

⊕ GROUNDWATER MONITORING WELL
SHOWING GROUNDWATER ELEVATION IN
FEET RELATIVE TO MEAN SEA LEVEL

--- GROUNDWATER ELEVATION CONTOUR

→ DIRECTION OF GROUNDWATER FLOW

- - - CONTOUR INTERVAL = 1.00 FOOT

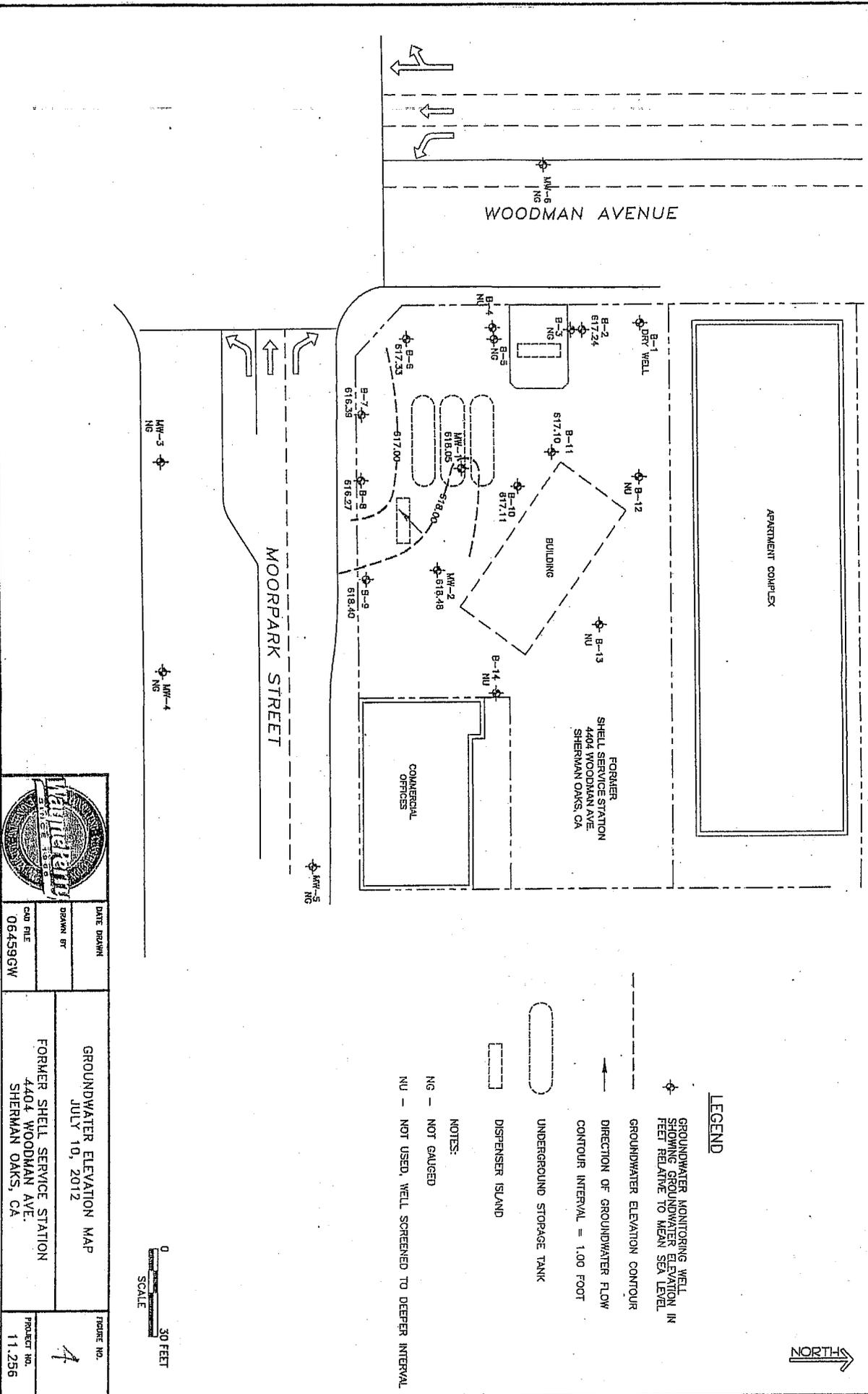
○ UNDERGROUND STORAGE TANK

□ DISPENSER ISLAND

NOTES:

NG - NOT GAUGED

NU - NOT USED, WELL SCREENED TO DEEPER INTERVAL



DATE DRAWN	GROUNDWATER ELEVATION MAP	FIGURE NO.
DRAWN BY	JULY 10, 2012	4
CAD FILE	FORMER SHELL SERVICE STATION	PROJECT NO.
064596GW	4404 WOODMAN AVE.	11.256
	SHERMAN OAKS, CA	



LEGEND

⊕ GROUNDWATER MONITORING WELL
SHOWING TBA CONCENTRATION IN ug/L

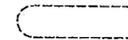
--- LINE OF EQUAL TBA CONCENTRATION

NOTES:

ND - NOT DETECTED

NS - NOT SAMPLED

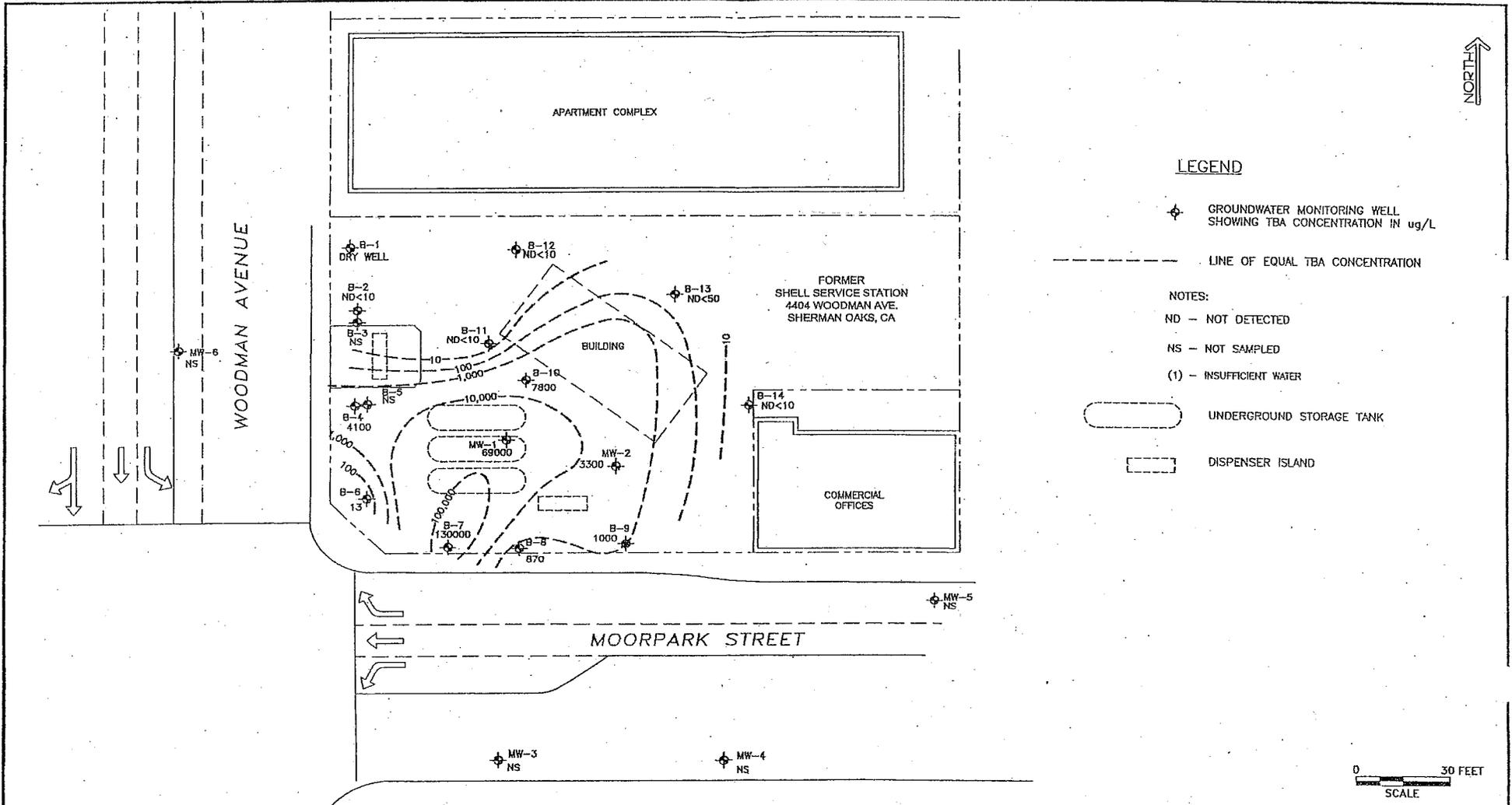
(1) - INSUFFICIENT WATER



UNDERGROUND STORAGE TANK



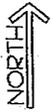
DISPENSER ISLAND



DATE DRAWN
DRAWN BY
CAD FILE
06459TBA

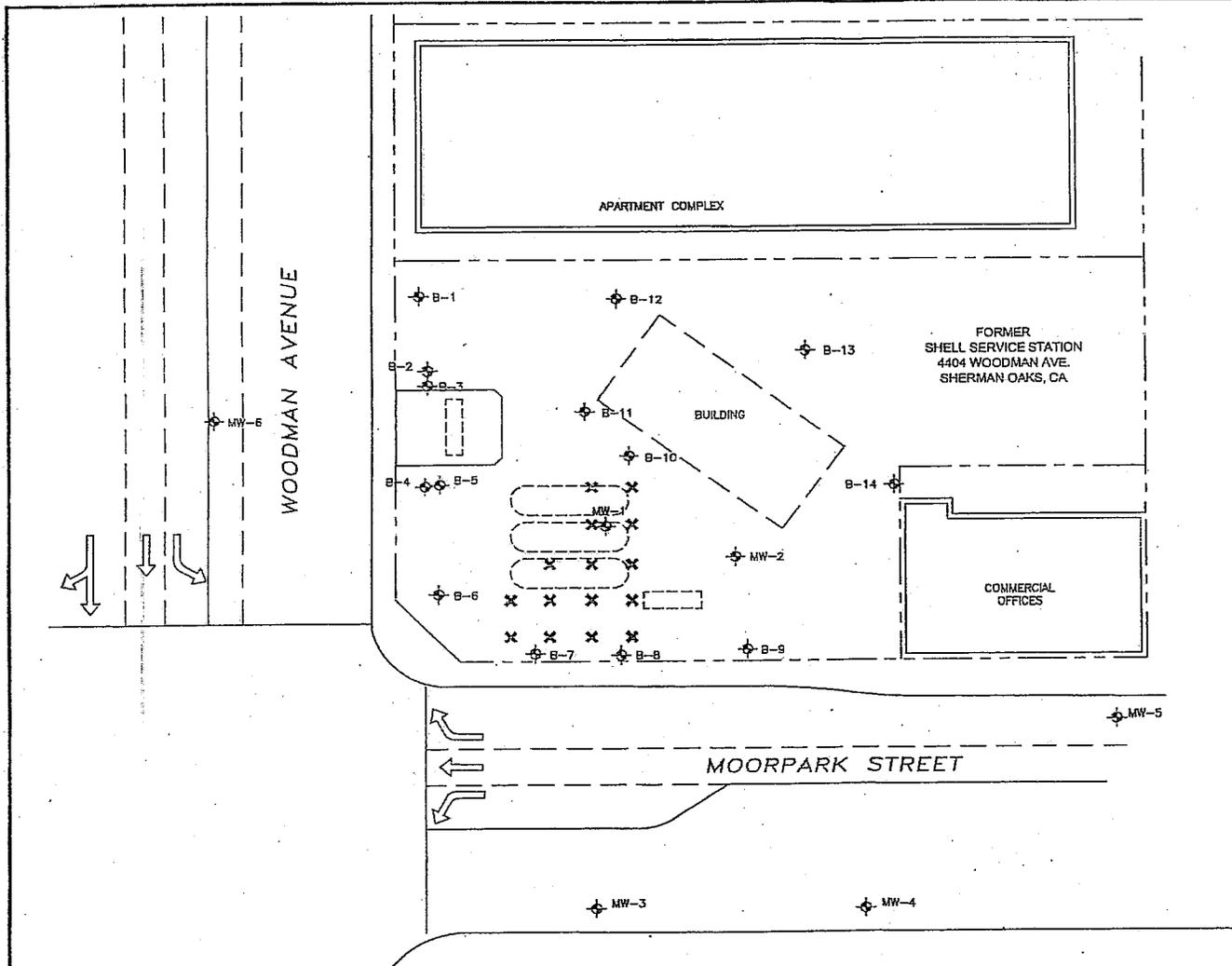
TBA CONCENTRATION MAP
JULY 10, 2012
FORMER SHELL SERVICE STATION
4404 WOODMAN AVE.
SHERMAN OAKS, CA

FIGURE NO.
5
PROJECT NO.
11.256



LEGEND

-  GROUNDWATER MONITORING WELL
-  UNDERGROUND STORAGE TANK
-  DISPENSER ISLAND
-  PROPOSED INJECTION POINTS



DATE DRAWN
DRAWN BY
CAD FILE
06459PP

PLOT PLAN SHOWING
PROPOSED INJECTION POINTS
FORMER SHELL SERVICE STATION
4404 WOODMAN AVE.
SHERMAN OAKS, CA

FIGURE NO.
6
PROJECT NO.
11.256

STATE OF CALIFORNIA
CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
LOS ANGELES REGION
MONITORING AND REPORTING PROGRAM NO. CI-9873
FOR
FORMER SHELL SERVICE STATION
4404 WOODMAN AVENUE, SHERMAN OAKS
ENROLLMENT UNDER REGIONAL BOARD ORDER NO. R4-2007-0019, SERIES NO. 200

I. REPORTING REQUIREMENTS

- A. Equillon Enterprises LLC dba Shell Oil Products US (hereinafter Discharger) shall implement this monitoring program on the effective date of the enrollment under Regional Board Order No. R4-2007-0019. The first monitoring report under this program, for January - June 2013, shall be received at the Regional Board by **July 15, 2013**. Subsequent monitoring reports shall be received at the Regional Board according to the following schedule:

<u>Reporting Period</u>	<u>Sampling Period</u>	<u>Report Due Date</u>
January – June	April – June	July 15 th
July – December	October – December	January 15 th

- B. If there is no discharge or injection during any reporting period, the report shall so state. Monitoring reports must be addressed to the Regional Board.
- C. By March 1 of each year, the Discharger shall submit an annual summary report to the Regional Board. The report shall contain both tabular and graphical summaries of the monitoring data obtained during the previous calendar year. In addition, the Discharger shall explain the compliance record and the corrective actions taken or planned, which may be needed to bring the discharge into full compliance with the waste discharge requirements (WDR).
- D. Laboratory analyses – all chemical, bacteriological, and toxicity analyses shall be conducted at a laboratory certified for such analyses by the California Department of Health Services Environmental Laboratory Accreditation Program (ELAP). A copy of the laboratory certification shall be provided each time a new and/or renewal certification is obtained from ELAP.
- E. The method limits (MLs) employed for effluent analyses shall be lower than the permit limits established for a given parameter, unless the Discharger can demonstrate that a particular ML is not attainable and obtains approval for a higher ML from the Regional Board Executive Officer (Executive Officer). The Discharger shall submit a list of the analytical methods employed for each test and the associated laboratory quality assurance/quality control (QA/QC) procedures upon request by the Regional Board.

- F. Groundwater samples must be analyzed within allowable holding time limits as specified in 40 CFR Part 136. All QA/QC samples must be run on the same dates when samples were actually analyzed. The Discharger shall make available for inspection and/or submit the QA/QC documentation upon request by Regional Board staff.
- G. Each monitoring report must affirm in writing that "All analyses were conducted at a laboratory certified for such analyses by the California Department of Health Services, and in accordance with current United States Environmental Protection Agency (USEPA) guideline procedures or as specified in this Monitoring Program." Proper chain of custody procedures must be followed and a copy of the completed chain of custody form shall be submitted with the report.
- H. Each monitoring report shall contain a separate section titled "Summary of Non-Compliance" which discusses the compliance record and the corrective actions taken or planned that may be needed to bring the discharge into full compliance with WDRs. This section shall be located at the front of the report and shall clearly list all non-compliance with WDRs, as well as all excursions of effluent limitations.
- I. The Discharger shall maintain all sampling and analytical results: date, exact place, and time of sampling; dates analyses were performed; analyst's name; analytical techniques used; and results of all analyses. Such records shall be retained for a minimum of three years. This period of retention shall be extended during the course of any unresolved litigation regarding this discharge, or when requested by the Regional Board.
- J. If the Discharger performs analyses on any groundwater samples more frequently than required by this Order using approved analytical methods, the results of those analyses shall be included in the report.
- K. In reporting the monitoring data, the Discharger shall arrange the data in tabular form so that the date, the constituents, and the concentrations are readily discernible. The data shall be summarized to demonstrate compliance with the requirements and, where applicable, shall include results of receiving water observations.
- L. The Discharger should not implement any changes to the Monitoring and Reporting Program prior to receiving Executive Officer's written approval.
- M. In accordance with regulations adopted by the State Water Resource Control Board (State Board) in September 2004 regarding electronic submittal of information (ESI), the Discharger has been electronically submitting Underground Storage Tank Program (UST) technical reports to the State Board GeoTracker system under the UST Global ID T0603702474. To comply with this Monitoring & Reporting Program (MRP), the Discharger shall upload the MRP monitoring reports to the Geotracker under the two Global IDs T0603702474 (continuing) and WDR 100005365 (new). For more information regarding the WDR Global ID, please see the ESI training video at:
<https://waterboards.webex.com/waterboards/ldr.php?AT=pb&SP=MC&rID=44145287&rKey=7dad4352c990334b>.

II. DISCHARGE MONITORING REQUIREMENTS

The semi-annual reports shall contain the following information regarding the injection activities.

1. Location map showing injection points used for the injection activities.
2. Written and tabular summary defining:
 - Depth of injection points;
 - Quantity of sodium persulfate injected at each injection point;
 - Days on which the injection system was in operation; and
 - Total amount of sodium persulfate injected at the site.
3. Semi-annual visual inspection at each injection well shall be conducted to evaluate the well casing integrity after each injection. The semi-annual report shall include a summary of the visual inspection.
4. To avoid groundwater monitoring network reduction, data bias, and well screen clogging or alteration, no groundwater monitoring wells shall be used as injection points during the proposed injection. Separate injection points/wells must be installed at the site for the proposed injection. Additional injection points shall be reviewed and approved by the Regional Board.

III. GROUNDWATER MONITORING PROGRAM

A groundwater-monitoring program shall be designed to detect and evaluate impacts associated with the injection activities. The monitoring well network must include B-12 and B-13 as upgradient wells; MW-1 and B-7 as source wells; and MW-3 and B-6 as downgradient wells (Figure 6). A baseline monitoring and sampling shall be conducted prior to the proposed injections. Baseline monitoring will establish the initial conditions with respect to the contaminant levels. These sampling stations shall not be changed and any proposed change of monitoring locations shall be identified and approved by the Executive Officer. The Discharger shall conduct a baseline sampling from all wells onsite one or two weeks prior to the proposed injection and regular sampling with the required frequencies from all the monitoring wells in the monitoring network for the following constituents:

<u>CONSTITUENT</u>	<u>UNITS</u> ¹	<u>TYPE OF SAMPLE</u>	<u>MINIMUM FREQUENCY OF ANALYSIS</u>
pH ²	pH units	grab	Semi-annually
Temperature ²	°F	grab	Semi-annually
Oxidation-reduction potential ²	Milivolts	grab	Semi-annually
Specific conductivity ²	µmhos/cm	grab	Semi-annually

Ferrous iron	µg/L	grab	Semi-annually
Dissolved Oxygen ²	µg/L	grab	Semi-annually
Total Petroleum Hydrocarbons (as gasoline)	µg/L	grab	Semi-annually
Benzene	µg/L	grab	Semi-annually
Ethylbenzene	µg/L	grab	Semi-annually
Toluene	µg/L	grab	Semi-annually
Total xylenes	µg/L	grab	Semi-annually
MTBE	µg/L	grab	Semi-annually
TBA	µg/L	grab	Semi-annually
TAME	µg/L	grab	Semi-annually
DIPE	µg/L	grab	Semi-annually
ETBE	µg/L	grab	Semi-annually
Ethanol	µg/L	grab	Semi-annually
Naphthalene	µg/L	grab	Semi-annually
Methane	µg/L	grab	Semi-annually
Formaldehyde	µg/L	grab	Semi-annually
Acetates	µg/L	grab	Semi-annually
Total organic carbon	µg/L	grab	Semi-annually
Total dissolved solids	mg/l	grab	Semi-annually
Arsenic	mg/L	grab	Semi-annually
Bromide	mg/L	grab	Semi-annually
Sulfate	mg/L	grab	Semi-annually
Chloride	mg/L	grab	Semi-annually
Boron	mg/L	grab	Semi-annually
Sodium	mg/L	grab	Semi-annually
Carbon dioxide	mg/L	grab	Semi-annually
Manganese	µg/L	grab	Semi-annually
Total iron	µg/L	grab	Semi-annually

Alkalinity	µg/L	grab	Semi-annually
Total chromium ³	µg/L	grab	Semi-annually
Chromium six ³	µg/L	grab	Semi-annually

¹ mg/L: milligrams per liter; µg/L: micrograms per liter; µmhos/cm: microohms per centimeter; °F: degree Fahrenheit.
² Field instrument may be used to measure this parameter.
³ The Discharger is required to monitor for total chromium and chromium six in the baseline, second and fourth semi-annual sampling. If detected at any of these sampling events, the total chromium and chromium six must be monitored semi-annually thereafter.

All groundwater monitoring reports must include, at a minimum, the following:

- a. Well identification, date and time of sampling;
- b. Sampler identification, and laboratory identification;
- c. Semi-annual observation of groundwater levels, recorded to 0.01 feet mean sea level and groundwater flow direction.

IV. MONITORING FREQUENCIES

Specifications in this monitoring program are subject to periodic revisions. Monitoring requirements may be modified or revised by the Executive Officer based on review of monitoring data submitted pursuant to this Order. Monitoring frequencies may be adjusted to a less frequent basis or parameters and locations dropped by the Executive Officer if the Discharger makes a request and the request is backed by statistical trends of monitoring data submitted.

V. CERTIFICATION STATEMENT

Each report shall contain the following completed declaration:

"I certify under penalty of law that this document, including all attachments and supplemental information, was prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of a fine and imprisonment".

Executed on the _____ day of _____ at _____.

(Signature)

(Title)"

Former Shell Service Station
Monitoring and Reporting Program No. CI-9873

UST File No. 914230170A
Order No. R4-2007-0019

VI. PUBLIC DOCUMENTS

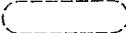
These records and reports are public documents and shall be made available for inspection during business hours at the office of the California Regional Water Quality Control Board, Los Angeles Region, upon request by interested parties.

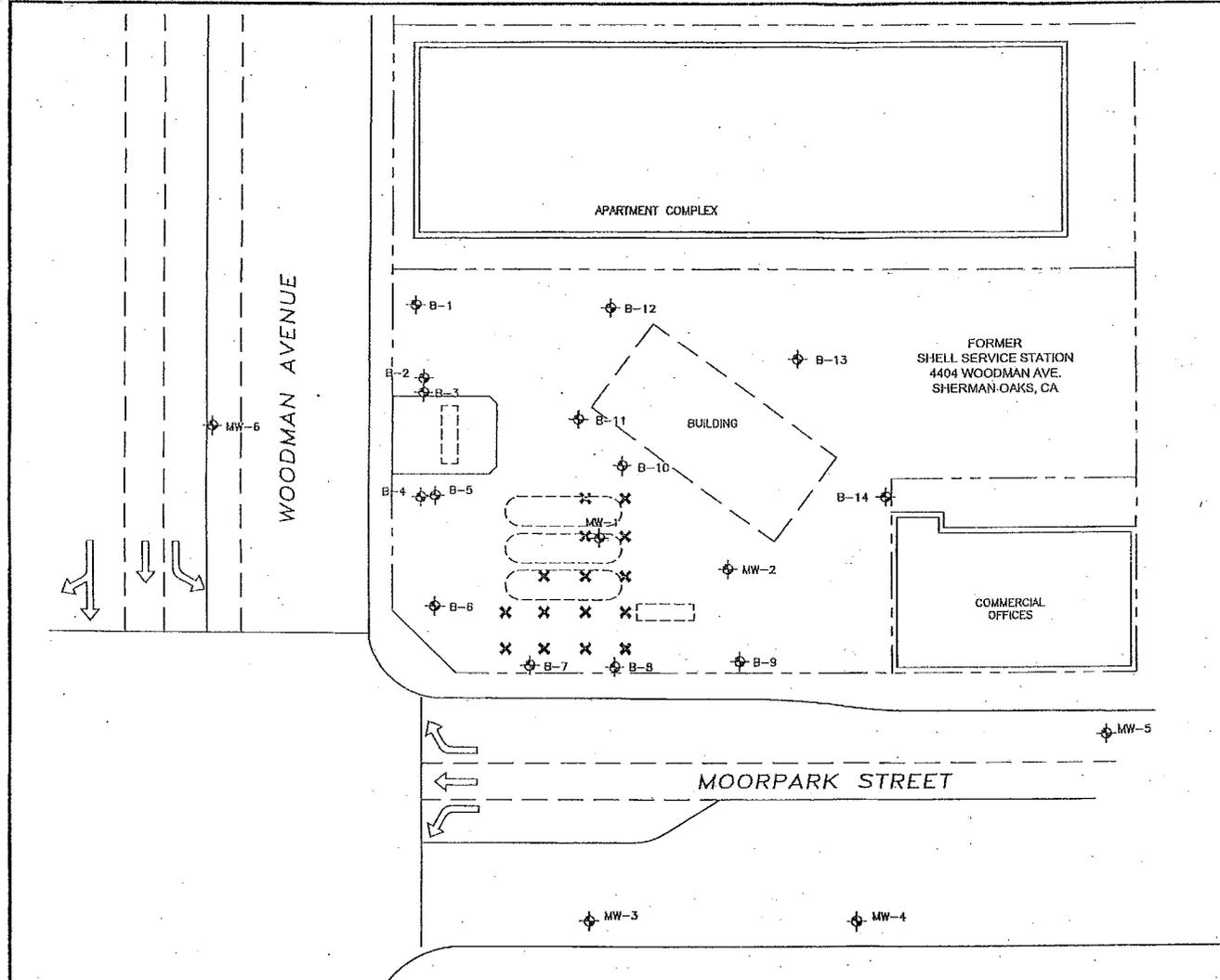
Ordered by: Samuel Unger
Samuel Unger, P.E.
Executive Officer

Date: January 15, 2013



LEGEND

-  GROUNDWATER MONITORING WELL
-  UNDERGROUND STORAGE TANK
-  DISPENSER ISLAND
-  PROPOSED INJECTION POINTS



0 30 FEET
SCALE



DATE DRAWN
DRAWN BY
CAD FILE
06459PP

PLOT PLAN SHOWING
PROPOSED INJECTION POINTS
FORMER SHELL SERVICE STATION
4404 WOODMAN AVE.
SHERMAN OAKS, CA

FIGURE NO.
6
PROJECT NO.
11.256

